



EVALUATION REPORT

FLORIDA BUILDING CODE, 8TH EDITION (2023)

Manufacturer: METAL SYSTEMS INC
 3399 Paul Buchman Hwy
 Plant City, FL 33565
 (813) 752-7088

Issued December 12, 2023

Manufacturing Locations: Plant City, FL

Quality Assurance: PRI Construction Materials Technologies (QUA9110)

SCOPE

Category: Roofing
Subcategory: Metal Roofing
Code Edition: Florida Building Code, 8th Edition (2023)
Code Sections: 1504.3
Properties: Wind Resistance

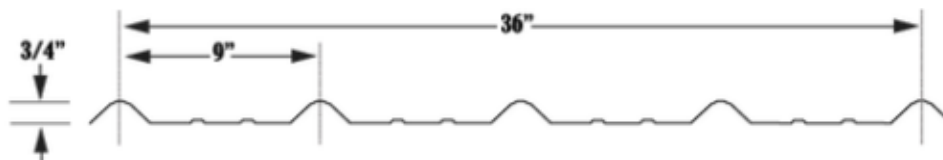
REFERENCES

<u>Entity</u>	<u>Report No.</u>	<u>Standard</u>	<u>Year</u>
PRI Construction Materials Technologies (TST5878)	2431T0001	UL 580	2006
		UL 1897	2015
PRI Construction Materials Technologies (TST5878)	2431T0002	UL 580	2006
		UL 1897	2015

PRODUCT DESCRIPTION

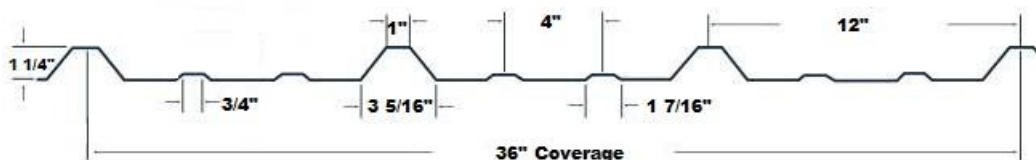
9-5 Max Rib

Profile: 3/4-inch ribs at 9-inch o.c.; 36-inch coverage
Description: Non-structural, through fastened roof panel
Material: Min. 29 ga. ASTM A792 AZ55, Grade 80 steel; Shall conform with FBC Section 1507.4.3



PBR

Profile: 1 1/4-inch ribs at 12-inch o.c.; 36-inch coverage
Description: Non-structural, through fastened roof panel
Material: Min. 26 ga. ASTM A792 AZ55, Grade 80 steel; Shall conform with FBC Section 1507.4.3



LIMITATIONS

1. This report is not for use in the HVHZ.
2. Fire classification is not within the scope of this evaluation.
3. The roof deck and the roof deck attachment shall be designed by others to meet the minimum design loads established for components and cladding and in accordance with FBC requirements.
4. Roof slope shall be in accordance with FBC Section 1507.4.2.
5. Reroofing shall be in accordance with FBC Section 1511. Recovery versus replacement shall be evaluated in accordance with FBC Section 1511.3.
6. Installation of the evaluated products shall comply with this report, the FBC and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and FBC compliant installation detail shall prevail.
7. All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 8th Edition (2023) as evidenced in the referenced documents submitted by the named manufacturer.



This item has been digitally signed and sealed by Zachary R. Priest, PE, on 12/12/2023.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Zachary R. Priest, P.E.
Florida Registration No. 74021
Organization No. ANE9641

CERTIFICATION OF INDEPENDENCE

CREEK Technical Services, LLC does not have, nor will it acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

CREEK Technical Services, LLC is not owned, operated, or controlled by any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

APPENDICES

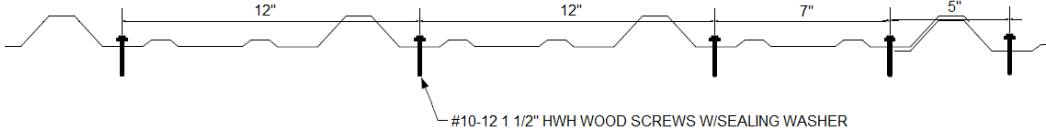
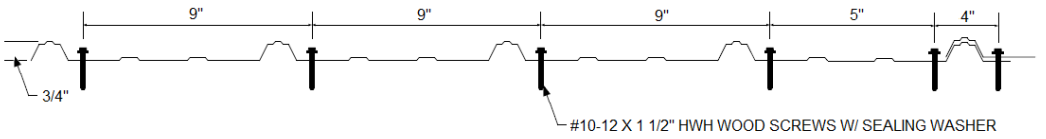
- 1) APPENDIX A – Installation (1 pages)
- 2) APPENDIX B – Approved Roof Systems (2 pages)
- 3) APPENDIX C – Design Wind Loads (4 pages)

INSTALLATION

Note - Refer to the [APPROVED ROOF SYSTEMS](#) section of this report for specific installation details of a selected system.

Unless otherwise specified in this report the following installation details shall be met for the named products:

Component	Product	Installation Detail
Fasteners	#10-12 x 1.5" Panel-Tite Burr Buster HWH screw with 0.5" sealing washer	Shall penetrate through the sheathing a minimum 3/8-inch. Shall be corrosion resistant in accordance with FBC section 1507.4.4.

Fastening Details	
Nomenclature	Attachment
PBR Type 1	
Rib Type 1	

APPROVED ROOF SYSTEMS

The following notes shall be observed when using the assembly tables below.

1. Maximum Design Pressure (*MDP*) was calculated using a 2:1 margin of safety per FBC Section 1504.9.
2. Refer to [LIMITATIONS](#) and sections of this evaluation when using the table(s) below.
3. Refer to [INSTALLATION](#) section of this report for installation detail when the information is not explicitly stated for the selected assembly.
4. The on-center (o.c.) spacing given is the maximum allowable attachment spacing for the rated system.
5. The panel thickness or gauge is the minimum allowable.
6. Wood Battens are installed parallel to the eave, beginning at the eave.
7. Wood Deck shall be designed by others in accordance with FBC requirements. 15/32 CDX plywood and shall be minimum 15/32-inch thick, PS 1-09 Grade C-D, Exposure 1, APA Span-Rated plywood sheathing at maximum 24-inch span.

Roof System Numbers and Definitions	
PBR-W#	PBR Panel over Wood Deck (New or Existing)
RIB-W#	9-5 Max Rib Panel over Wood Deck (New or Existing)

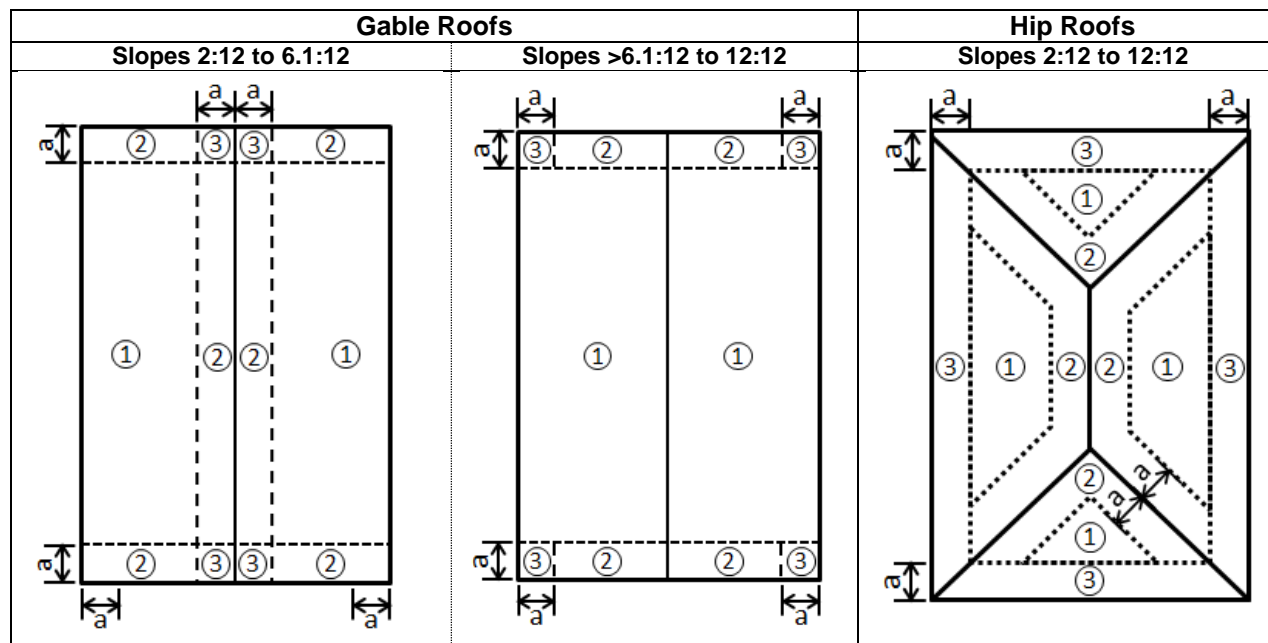
Approved Systems for PBR Panel over Wood Deck (New or Existing)								
System No.	Deck	Existing Roof	Fire Barrier	Underlayment	Wood Battens	Roof Panel	Panel Attachment	<i>MDP</i> (psf)
PBR-W-1	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	-	Min. 26ga. steel PBR 36-inch coverage	<i>PBR Type 1</i> attachment spaced 24-inch o.c.	-67.5
PBR-W-2	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 1x4 No. 2 SYP wood battens spaced 24-inch o.c.; Fastened to deck with one (1) 0.113 X 2 3/8-inch ring shank nail spaced 4-inch o.c. in a staggered pattern	Min. 26ga. Steel PBR 36-inch coverage	<i>PBR Type 1</i> attachment into each wood batten	-67.5
PBR-W-3	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 1x4 No. 2 SYP wood battens spaced 24-inch o.c.; Fastened to deck with one (1) #8 x min. 2 1/2-inch bugle head wood deck screw spaced 4-inch o.c. in a staggered pattern	Min. 26ga. Steel PBR 36-inch coverage	<i>PBR Type 1</i> attachment into each wood batten	-90

Approved Systems for 9-5 Max Rib Panel over Wood Deck (New or Existing)								
System No.	Deck	Existing Roof	Fire Barrier	Underlayment	Wood Battens	Roof Panel	Panel Attachment	MDP (psf)
RIB-W-1	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	-	Min. 29ga. steel 9-5 Max Rib 36-inch coverage	<i>Rib Type 1</i> attachment spaced 24-inch o.c.	-75
RIB-W-2	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 1x4 No. 2 SYP wood battens spaced 24-inch o.c.; Fastened to deck with one (1) 0.113 X 2 3/8-inch ring shank nail spaced 4-inch o.c. in a staggered pattern	Min. 29ga. steel 9-5 Max Rib 36-inch coverage	<i>Rib Type 1</i> attachment into each wood batten	-82.5
RIB-W-3	Min. 15/32 CDX plywood	OPTIONAL One layer of asphalt shingles	OPTIONAL <i>Approved</i> fire barrier	As required per FBC	Min. 1x4 No. 2 SYP wood battens spaced 24-inch o.c.; Fastened to deck with one (1) #8 x min. 2 1/2-inch bugle head wood deck screw spaced 4-inch o.c. in a staggered pattern	Min. 29ga. steel 9-5 Max Rib 36-inch coverage	<i>Rib Type 1</i> attachment into each wood batten	-105

DESIGN WIND LOADS

The following tables provide design wind loads for components and cladding in accordance with Section 1609 of the FBC and ASCE 7-22 under the following provisions:

1. Wind speeds for risk category I, II, III, and IV buildings shall be as defined in Section 1609 of the FBC.
2. Exposure B, C, and D shall be as defined in section 1609 of the FBC.
3. Design wind load provided only for gable/hip roofs with roof slopes between 2:12 and 6.1:12
4. All calculations are based on an effective wind area of 10-ft² or less.
5. Topographic factors such as escarpments or hills have been excluded from the analysis
6. Overhangs have been excluded from the analysis.
7. Wind directionality factor, $K_d = 0.85$
8. Ground elevation factor, $K_e = 1.0$
9. V_{ult} is shown in the tables below. Design wind loads are calculated using $V_{asd} = V_{ult} \sqrt{0.6}$ per 1609.3.1.
10. Zone 2 applies to Zone 3 for Hip Roofs where the slope is between 2:12 and 6.1:12
11. Projects with mean roof heights greater than 60-ft shall be evaluated by a licensed design professional
12. Zones 1, 2, and 3 shall be defined as shown below. Dimension "a" shall be 10% of the least horizontal dimension or (0.4 x Mean Roof Height), whichever is smaller, but not less than either 4% of the least horizontal dimension or 3ft



APPENDIX C

Gable/Hip Roofs in Exposure B (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-25.4	-29.8	-34.6	-39.7	-45.2	-51.0	-57.2	-63.7	-70.6
		25	-26.9	-31.6	-36.6	-42.0	-47.8	-54.0	-60.5	-67.5	-74.7
		30	-28.3	-33.2	-38.5	-44.1	-50.2	-56.7	-63.6	-70.8	-78.5
		40	-30.5	-35.8	-41.5	-47.7	-54.2	-61.2	-68.6	-76.5	-84.7
		50	-32.4	-38.0	-44.1	-50.6	-57.6	-65.0	-72.8	-81.2	-89.9
		60	-34.0	-39.9	-46.3	-53.1	-60.4	-68.2	-76.5	-85.2	-94.4
	2	20	-33.6	-39.4	-45.7	-52.5	-59.7	-67.4	-75.5	-84.2	-93.3
		25	-35.5	-41.7	-48.4	-55.5	-63.2	-71.3	-80.0	-89.1	-98.7
		30	-37.3	-43.8	-50.8	-58.3	-66.3	-74.9	-84.0	-93.6	-103.7
		40	-40.3	-47.3	-54.9	-63.0	-71.6	-80.9	-90.7	-101.0	-111.9
		50	-42.8	-50.2	-58.2	-66.8	-76.0	-85.8	-96.2	-107.2	-118.8
		60	-44.9	-52.7	-61.1	-70.2	-79.8	-90.1	-101.0	-112.6	-124.7
	3	20	-44.1	-51.7	-60.0	-68.8	-78.3	-88.4	-99.1	-110.5	-122.4
		25	-46.7	-54.8	-63.5	-72.9	-82.9	-93.6	-105.0	-117.0	-129.6
		30	-49.0	-57.5	-66.7	-76.5	-87.1	-98.3	-110.2	-122.8	-136.1
		40	-52.9	-62.1	-72.0	-82.6	-94.0	-106.1	-119.0	-132.6	-146.9
		50	-56.1	-65.9	-76.4	-87.7	-99.8	-112.6	-126.3	-140.7	-155.9
		60	-58.9	-69.2	-80.2	-92.1	-104.8	-118.3	-132.6	-147.7	-163.7
Partially Enclosed	1	20	-29.7	-34.9	-40.5	-46.5	-52.8	-59.7	-66.9	-74.5	-82.6
		25	-31.5	-36.9	-42.8	-49.2	-56.0	-63.2	-70.8	-78.9	-87.4
		30	-33.0	-38.8	-45.0	-51.6	-58.7	-66.3	-74.4	-82.8	-91.8
		40	-35.7	-41.9	-48.6	-55.8	-63.4	-71.6	-80.3	-89.4	-99.1
		50	-37.9	-44.4	-51.5	-59.2	-67.3	-76.0	-85.2	-94.9	-105.2
		60	-39.8	-46.7	-54.1	-62.1	-70.7	-79.8	-89.4	-99.7	-110.4
	2	20	-37.9	-44.5	-51.6	-59.2	-67.4	-76.0	-85.2	-95.0	-105.2
		25	-40.1	-47.1	-54.6	-62.7	-71.3	-80.5	-90.3	-100.6	-111.4
		30	-42.1	-49.4	-57.3	-65.8	-74.9	-84.5	-94.8	-105.6	-117.0
		40	-45.5	-53.4	-61.9	-71.1	-80.8	-91.3	-102.3	-114.0	-126.3
		50	-48.3	-56.6	-65.7	-75.4	-85.8	-96.9	-108.6	-121.0	-134.1
		60	-50.7	-59.5	-69.0	-79.2	-90.1	-101.7	-114.0	-127.0	-140.7
	3	20	-48.4	-56.8	-65.8	-75.6	-86.0	-97.1	-108.8	-121.3	-134.4
		25	-51.2	-60.1	-69.7	-80.0	-91.1	-102.8	-115.3	-128.4	-142.3
		30	-53.8	-63.1	-73.2	-84.0	-95.6	-107.9	-121.0	-134.8	-149.4
		40	-58.1	-68.1	-79.0	-90.7	-103.2	-116.5	-130.6	-145.6	-161.3
		50	-61.6	-72.3	-83.9	-96.3	-109.6	-123.7	-138.7	-154.5	-171.2
		60	-64.7	-75.9	-88.1	-101.1	-115.0	-129.8	-145.6	-162.2	-179.7

APPENDIX C

Gable/Hip Roofs in Exposure C (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-36.9	-43.3	-50.2	-57.6	-65.6	-74.0	-83.0	-92.5	-102.5
		25	-38.7	-45.4	-52.7	-60.5	-68.8	-77.7	-87.1	-97.1	-107.6
		30	-40.2	-47.2	-54.7	-62.8	-71.4	-80.7	-90.4	-100.8	-111.6
		40	-42.6	-50.0	-58.0	-66.6	-75.8	-85.5	-95.9	-106.8	-118.4
		50	-44.6	-52.3	-60.7	-69.7	-79.3	-89.5	-100.4	-111.8	-123.9
		60	-46.3	-54.3	-63.0	-72.3	-82.3	-92.9	-104.2	-116.1	-128.6
	2	20	-48.7	-57.2	-66.3	-76.1	-86.6	-97.8	-109.6	-122.2	-135.4
		25	-51.2	-60.0	-69.6	-79.9	-90.9	-102.7	-115.1	-128.2	-142.1
		30	-53.1	-62.3	-72.3	-83.0	-94.4	-106.6	-119.5	-133.1	-147.5
		40	-56.3	-66.1	-76.6	-88.0	-100.1	-113.0	-126.7	-141.1	-156.4
		50	-58.9	-69.2	-80.2	-92.1	-104.8	-118.3	-132.6	-147.7	-163.7
		60	-61.2	-71.8	-83.2	-95.6	-108.7	-122.7	-137.6	-153.3	-169.9
	3	20	-64.0	-75.1	-87.1	-99.9	-113.7	-128.4	-143.9	-160.3	-177.7
		25	-67.1	-78.8	-91.4	-104.9	-119.4	-134.7	-151.1	-168.3	-186.5
		30	-69.7	-81.8	-94.8	-108.9	-123.9	-139.8	-156.8	-174.7	-193.6
		40	-73.9	-86.7	-100.6	-115.5	-131.4	-148.3	-166.3	-185.2	-205.3
		50	-77.3	-90.8	-105.3	-120.8	-137.5	-155.2	-174.0	-193.9	-214.8
		60	-80.3	-94.2	-109.3	-125.4	-142.7	-161.1	-180.6	-201.2	-223.0
Partially Enclosed	1	20	-43.2	-50.6	-58.7	-67.4	-76.7	-86.6	-97.1	-108.2	-119.9
		25	-45.3	-53.2	-61.6	-70.8	-80.5	-90.9	-101.9	-113.5	-125.8
		30	-47.0	-55.2	-64.0	-73.5	-83.6	-94.3	-105.8	-117.8	-130.6
		40	-49.9	-58.5	-67.9	-77.9	-88.6	-100.0	-112.2	-125.0	-138.5
		50	-52.2	-61.2	-71.0	-81.5	-92.8	-104.7	-117.4	-130.8	-144.9
		60	-54.2	-63.6	-73.7	-84.6	-96.3	-108.7	-121.8	-135.8	-150.4
	2	20	-55.0	-64.5	-74.9	-85.9	-97.8	-110.4	-123.7	-137.9	-152.8
		25	-57.7	-67.7	-78.6	-90.2	-102.6	-115.8	-129.9	-144.7	-160.3
		30	-59.9	-70.3	-81.6	-93.6	-106.5	-120.2	-134.8	-150.2	-166.4
		40	-63.5	-74.6	-86.5	-99.3	-112.9	-127.5	-143.0	-159.3	-176.5
		50	-66.5	-78.0	-90.5	-103.9	-118.2	-133.5	-149.6	-166.7	-184.7
		60	-69.0	-81.0	-93.9	-107.8	-122.7	-138.5	-155.3	-173.0	-191.7
	3	20	-70.2	-82.4	-95.6	-109.7	-124.8	-140.9	-158.0	-176.0	-195.1
		25	-73.7	-86.5	-100.3	-115.2	-131.0	-147.9	-165.8	-184.8	-204.7
		30	-76.5	-89.8	-104.1	-119.5	-136.0	-153.5	-172.1	-191.8	-212.5
		40	-81.1	-95.2	-110.4	-126.8	-144.2	-162.8	-182.5	-203.4	-225.4
		50	-84.9	-99.7	-115.6	-132.7	-150.9	-170.4	-191.0	-212.9	-235.9
		60	-88.1	-103.4	-120.0	-137.7	-156.7	-176.9	-198.3	-220.9	-244.8

APPENDIX C

Gable/Hip Roofs in Exposure D (Roof slope between 2:12 and 12:12)											
Building Type	Zone	Mean Roof Height (ft)	Basic Wind Speed (mph)								
			120	130	140	150	160	170	180	190	200
Enclosed/ Partially Open	1	20	-44.7	-52.4	-60.8	-69.8	-79.4	-89.7	-100.5	-112.0	-124.1
		25	-46.4	-54.4	-63.1	-72.4	-82.4	-93.1	-104.3	-116.2	-128.8
		30	-47.9	-56.2	-65.1	-74.8	-85.1	-96.1	-107.7	-120.0	-132.9
		40	-50.3	-59.1	-68.5	-78.6	-89.4	-101.0	-113.2	-126.1	-139.8
		50	-52.3	-61.4	-71.2	-81.7	-93.0	-105.0	-117.7	-131.1	-145.3
		60	-54.0	-63.4	-73.5	-84.4	-96.0	-108.4	-121.5	-135.3	-150.0
	2	20	-59.0	-69.3	-80.3	-92.2	-104.9	-118.5	-132.8	-148.0	-163.9
		25	-61.3	-71.9	-83.4	-95.7	-108.9	-122.9	-137.8	-153.6	-170.1
		30	-63.2	-74.2	-86.1	-98.8	-112.4	-126.9	-142.3	-158.5	-175.6
		40	-66.5	-78.0	-90.5	-103.9	-118.2	-133.4	-149.6	-166.6	-184.6
		50	-69.1	-81.1	-94.1	-108.0	-122.8	-138.7	-155.5	-173.2	-191.9
		60	-71.3	-83.7	-97.1	-111.4	-126.8	-143.1	-160.5	-178.8	-198.1
	3	20	-77.5	-90.9	-105.4	-121.0	-137.7	-155.5	-174.3	-194.2	-215.2
		25	-80.4	-94.4	-109.4	-125.6	-142.9	-161.3	-180.9	-201.5	-223.3
		30	-83.0	-97.4	-112.9	-129.7	-147.5	-166.5	-186.7	-208.0	-230.5
		40	-87.2	-102.4	-118.7	-136.3	-155.1	-175.1	-196.3	-218.7	-242.3
		50	-90.7	-106.4	-123.4	-141.7	-161.2	-182.0	-204.1	-227.4	-251.9
		60	-93.6	-109.9	-127.4	-146.3	-166.4	-187.9	-210.6	-234.7	-260.0
Partially Enclosed	1	20	-52.3	-61.3	-71.1	-81.7	-92.9	-104.9	-117.6	-131.0	-145.2
		25	-54.2	-63.7	-73.8	-84.7	-96.4	-108.8	-122.0	-136.0	-150.6
		30	-56.0	-65.7	-76.2	-87.5	-99.5	-112.3	-126.0	-140.3	-155.5
		40	-58.9	-69.1	-80.1	-92.0	-104.6	-118.1	-132.4	-147.5	-163.5
		50	-61.2	-71.8	-83.3	-95.6	-108.8	-122.8	-137.7	-153.4	-169.9
		60	-63.2	-74.1	-86.0	-98.7	-112.3	-126.7	-142.1	-158.3	-175.4
	2	20	-66.6	-78.2	-90.7	-104.1	-118.4	-133.7	-149.9	-167.0	-185.0
		25	-69.1	-81.1	-94.1	-108.0	-122.9	-138.7	-155.5	-173.3	-192.0
		30	-71.4	-83.7	-97.1	-111.5	-126.8	-143.2	-160.5	-178.9	-198.2
		40	-75.0	-88.0	-102.1	-117.2	-133.3	-150.5	-168.8	-188.0	-208.4
		50	-78.0	-91.5	-106.1	-121.8	-138.6	-156.5	-175.4	-195.5	-216.6
		60	-80.5	-94.5	-109.6	-125.8	-143.1	-161.5	-181.1	-201.8	-223.6
	3	20	-85.0	-99.8	-115.8	-132.9	-151.2	-170.7	-191.4	-213.2	-236.2
		25	-88.3	-103.6	-120.1	-137.9	-156.9	-177.1	-198.6	-221.3	-245.2
		30	-91.1	-106.9	-124.0	-142.4	-162.0	-182.8	-205.0	-228.4	-253.1
		40	-95.8	-112.4	-130.4	-149.7	-170.3	-192.2	-215.5	-240.1	-266.1
		50	-99.6	-116.9	-135.5	-155.6	-177.0	-199.8	-224.0	-249.6	-276.6
		60	-102.8	-120.6	-139.9	-160.6	-182.7	-206.3	-231.2	-257.7	-285.5